

COMPLETE LISTING OF THE CLAIMS

The following lists all of the claims that are or were in the above-identified patent application. The status identifiers respectively provided in parentheses following the claim numbers indicate the current statuses of the claims.

1. (Canceled)
2. (Currently Amended) A method of generating a CRC for a composite sub-message based on a CRC generating polynomial having at least two factors, the composite sub-message including sub-message data and a number, n , of trailing zeros, the method comprising:
 - generating a first remainder based on the sub-message data and a first factor of the CRC generating polynomial;
 - generating a second remainder based on the sub-message data and a second factor of the CRC generating polynomial;
 - adjusting at least one of the first and second remainders based on the number, n , of trailing zeros in the composite sub-message; and
 - generating the CRC for the composite sub-message based on adjusted

versions of the first and second remainders;

wherein the first remainder is an m-bit remainder, and wherein the adjusting step comprises:

storing the first remainder in an m-bit memory location;

examining each bit of N, where N equals $n \bmod (2^{\text{sup.m-1}})$; and

selectively advancing the contents of the m-bit memory location to a next state based on a value of each bit of N, the next state determined by a Galois field defined by the first factor.

3. (Canceled)

4. (Currently Amended) The method of claim [[3]] 2, wherein the second remainder is adjusted in substantially the same manner as the first remainder.

5. (Currently Amended) The method of claim 2; A method of generating a CRC for a composite sub-message based on a CRC generating polynomial having at least two factors, the composite sub-message including sub-message data and a number, n, of trailing zeros, the method comprising:

generating a first remainder based on the sub-message data and a first factor of the CRC generating polynomial;

generating a second remainder based on the sub-message data and a second factor of the CRC generating polynomial;

adjusting at least one of the first and second remainders based on the number, n, of trailing zeros in the composite sub-message; and

generating the CRC for the composite sub-message based on adjusted versions of the first and second remainders;

wherein the first remainder is an m-bit remainder, and wherein the adjusting step comprises:

storing the first remainder in an m-bit memory location; and

examining each bit of N, where $N \text{ equals } n \bmod (2^{\text{sup.}m-1})$, in order from a most significant bit to a least significant bit; the examining act for each examined bit comprising:

finite field squaring the contents of the m-bit memory location, and;

if the examined bit equals one, advancing the contents of the m-bit memory location to a next state as determined by a Galois field defined by the first

factor.

6. (Original) The method of claim 5, wherein the second remainder is adjusted in substantially the same manner as the first remainder.

7-8. (Canceled)

9. (Previously Presented) A method of generating a CRC for a composite sub-message based on a CRC generating polynomial having at least two factors, the composite sub-message including sub-message data and a number, n , of trailing zeros, the method comprising:

generating a first remainder based on the sub-message data and a first factor of the CRC generating polynomial, wherein the step of generating a first remainder comprises:

dividing the sub-message data by the CRC generating polynomial, thereby generating an unadjusted composite remainder; and

dividing the unadjusted composite remainder by the first factor, thereby

generating the first remainder;

generating a second remainder based on the sub-message data and a second factor of the CRC generating polynomial; and

generating the CRC for the composite sub-message based on adjusted versions of the first and second remainders.

10. (Original) The method of claim 9, wherein the step of generating a second remainder comprises:

dividing the unadjusted composite remainder by the second factor, thereby generating the second remainder.

11-20 (Canceled).